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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,610	08/30/2001	Luc R.M. Martens	2001B081	9649

7590 01/23/2003
ExxonMobil Chemical Company
P.O. Box 2149
Baytown, TX 77522

EXAMINER

DANG, THUAN D

ART UNIT	PAPER NUMBER
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1764

7

DATE MAILED: 01/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,610

Applicant(s)

MARTENS ET AL.

Examiner

Thuan D. Dang

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4-6</u> . | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al (6,048,816).

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Brown discloses a process of conversion of oxygenate to a product containing C₂₋₄ olefins by contacting the feed with a catalyst including zeolites such as ZSM-5 and ZSM-35 (the abstract; col. 2, line 66 thru col. 3, line 2).

Brown appears to be silent as to using at least two different zeolites, namely ZSM-5 and ZSM-35, as the catalysts. Brown does not disclose if these two zeolites are mixed in one reactor or arranged in serial beds/reactors.

However, as discussed, Brown discloses that either ZSM-5 or ZSM-35 can be used as catalytic materials (col. 2, line 66 thru col. 3, line 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Brown process by using both ZSM-5 and ZSM-35 as the oxygenate conversion catalyst since it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Brown process by arranging the zeolites in a same bed as a mixture or in different beds/reactors in any order such as the applicants' claimed order as called for in claim 13 since it is expected that in any arrangement of zeolites having similar reaction activities, these arrangements of similar catalysts would yield similar results.

On column 6, lines 5-9, Brown discloses which components are present in the oxygenate feed.

Claims 1-11 and 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leyshon et al (5,026,936) in view of Brown et al (6,048,816).

Leyshon discloses a process for production of propylene from a C₄+ hydrocarbon feed including butenes in the presence of a zeolite catalyst such as ZSM-35 (the abstract; the sole figure; col. 3, line 39-43; col. 4, line 16).

Leyshon does not disclose that C₄+ stream come from an oxygenate conversion , but discloses generally that butenes can be used (col. 3, lines 38-44). However, Brown discloses a process, as discussed above, which produces C₂₋₄ olefins.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Leyshon process by using C₄ olefin in the Brown C₂₋₄ olefinic product to increase the production of propylene since both processes are desired to produce propylene. Further, it is expected that using any olefin, provided that they are C₄+ olefins, as the feed for Leyshon's process would yield similar results.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Leyshon process having been modified by the teaching of Brown by separating C₄ olefin from the Brown product before the cracking step of Leyshon since propylene is desired product of Leyshon's process. As a result, the concentration, as called for in claims 16-18, is expected due to the separation.

A fluid bed is used by Brown (col. 5, line 61).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 703-305-2658. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Thuan D. Dang
Primary Examiner
Art Unit 1764

91943610.1st
January 18, 2003

A handwritten signature in black ink, appearing to be 'Thuan D. Dang', written in a cursive style.